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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/593,142	AHN, JAE MYUNG
	Examiner	Art Unit	
	REVA DANZIG	3687	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _18 September 2006_.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-24_ is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) _1-24_ is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on _18 September 2006_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _9-18-2006_.
4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____ .

DETAILED ACTION

Claim Objections

1.   Claims 11, 12, 20, and 21are objected to because of the following informalities:

Line 3 of Claims 11, 12, 20 and 21 recite "calculated by a radio" should recite

"calculated by a ratio".

Appropriate correction is required.

Claim Rejections - 35 USC § 101

2.   35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 16-24 are rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter.

Claims 16-24 are rejected under 35 U.S.C. 101. Based on Supreme Court

precedent and recent Federal Circuit decisions, the Office's guidance to examiners is

that a § 101 process must (1) be tied to a machine or apparatus, or (2) transform

underlying subject matter (such as an article or materials) to a different state or thing. In

re Bilski et al, 88 USPQ 2d 1385 CAFC (2008); Diamond v. Diehr, 450 U.S. 175, 184

(1981); Parker v. Flook, 437 U.S. 584, 588 n.9 (1978); Gottschalk v. Benson, 409 U.S.

63, 70 (1972); Cochrane v. Deener, 94 U.S. 780,787-88 (1876).

3.   With respect to independent Claim 16, the claim language recites the steps of

detecting a location of a consumer; checking stay shopping time; tracing a shopping

traffic line; analyzing zone preference; analyzing a shopping pattern; and generating or

updating shopping profile information. Here, there is insufficient recitation of a machine

or transformation, and/or involvement of machine, or transformation with the steps is

merely nominally, insignificantly, or tangentially related to the performance of the steps,

e.g., data gathering and communicating the result, or merely recites a field in which the

method is intended to be applied.

        Claims 17-21 are rejected based upon the same rationale, wherein the claim

language does not include the required tie or transformation.

4.   With respect to independent Claim 22, the claim language recites the steps of

registering consumer information; detecting a location of the consumer; determining

whether or not stay shopping time of the consumer exceeds preset threshold time;

searching for a shopping profile; determining whether or not a current stay shopping

zone in included; selecting a preference zone; transmitting information on the

preference zone and information on goods of interest; and adding information on a

relevant moving zone. Here, there is insufficient recitation of a machine or

transformation, and/or involvement of machine, or transformation with the steps is

merely nominally, insignificantly, or tangentially related to the performance of the steps,

e.g., data gathering and communicating the result, or merely recites a field in which the

method is intended to be applied.

Claims 23-24 are rejected based upon the same rationale, wherein the claim

language does not include the required tie or transformation

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over US

7,006,982 Sorensen in view of US 2002/0161651 Godsey et al .

As per Claim 1, Sorensen teaches a shopping pattern analyzing system

comprising:

a tag attached to a shopping cart and having mobility corresponding to a

shopping consumer (Sorensen: Column 3, lines 44-52);

a plurality of readers for reading information of the tag through local area radio

communication and transmitting the read information through a network (Sorensen:

Column 3, lines 53-56);

an analysis module for analyzing a shopping pattern of the consumer form the

information of the tag read by the readers (Sorensen: Column 3, lines 5-12);

a database in which the information of the tag and analysis data of the analysis

module are stored (Sorensen: Column 5, lines 21-24);

a system server for managing the analysis data of the analysis module by

performing communication with the readers, and controlling the analysis module and the

database (Sorensen: Column 3, lines 5-12 and Column 5, lines 51-64); and

a monitoring terminal for receiving a result of the analysis for the shopping

pattern from the system server and displaying the received result of the analysis

(Sorensen: Column 3, lines 13-16).

As per Claim 2, Sorensen teaches the claimed system further comprising a

wired/wireless terminal installed at an entrance and exit spot of a store for identifying a

card on which consumer information is recorded, wherein the shopping pattern

analyzing system manages a shopping profile of the consumer using a combination of

the consumer information and the tag information (Sorensen: Column 5, lines 10-17 and

42-51).

As per Claim 3, Sorensen teaches the claimed system further comprising a

consumer terminal for receiving information on a shopping expectation zone of the

consumer and information on a shopping expectation zone of the consumer and

information on goods of interest in a relevant zone, which are analyzed by the analysis

module (Sorensen: Column 5, lines 10-17).

As per Claim 4, Sorensen teaches the claimed system further comprising a

plurality of POS terminals for settling goods shopped by the consumer (Sorensen:

Column 4, lines 64-67 and Column 5, lines 1-2), wherein the shopping pattern analyzing

system manages a shopping profile of the consumer using a combination of the

consumer information and the tag information, which are used for settlement (Sorensen:

Column 5, lines 5-8).

As per Claim 5, Sorensen teaches the claimed system wherein the analysis

module includes:

a consumer location detecting unit for detecting a location of the consumer in a

store corresponding to a location of the tag according to a signal from the tag sensed by

the readers and storing information on the detected location of the consumer in the

database (Sorensen: Column 4, lines 13-16);

a shopping time checking unit for checking a term during which the consumer

stays in the detected location in the store, determines the term as stay shopping time in

a relevant zone if the consumer stays in the relevant zone for preset threshold time, and

storing the stay shopping time in the database (Sorensen: Column 7, lines 39-61); and

a shopping traffic line tracing unit for tracing a shopping traffic line of the

consumer in association of the consumer location information and the stay shopping

time information in the relevant zone and storing the shipping traffic line information in

the database (Sorensen: Column 3, lines 56-59).

As per Claim 6, Sorensen teaches the claimed system wherein the analysis

module further includes:

a preference zone analyzing unit for calculating preference of the relevant zone

using stay shopping time of the consumer for each zone and shopping information on

goods in the relevant zone and storing the calculated preference in database

(Sorensen: Column 9, lines 14-35); and

a shopping pattern analyzing unit for analyzing profile information of the

consumer, shopping particulars of the consumer, and the shopping traffic line

information, which are stored in the database, grouping the shopping pattern of the

consumer for each item of the consumer profile, inferring shopping patterns for different

consumers having similar profile information, and storing a result of the inference in the

database (Sorensen: Column 9, lines 4-13).

As per Claim 7, Sorensen teaches the claimed system wherein the analysis

module includes:

a shopping profile analyzing unit for generating or updating a shopping profile of

the consumer with reference to the consumer information and shopping history of the

consumer and shopping history of a consumer group related to the consumer, which are

stored in the database, analyzing the generated or updated shopping profile, and

storing a result of the analysis in the database (Sorensen: Column 5, lines 41-51); and

a potential information predicting unit for providing goods recommendation

information individualized with reference to goods shopping particulars of the consumer,

the shopping traffic line information, the shopping profile, and zone preference, which

are stored in the database, to a consumer terminal carried by the consumer (Sorensen:

Column 5, lines 51-64).

As per Claim 8, Sorensen teaches the claimed system wherein the threshold

time is calculated by subtracting an average of moving time of the consumer in the

relevant zone from an average of stay shopping time for each relevant zone, and is

defined between maximal stay shopping time and minimal stay shopping time, which

are spent in each zone when relevant zone goods are shopped actually (Sorensen:

Column 8, lines 51-65).

As per Claim 9, Sorensen teaches the claimed system wherein the shopping

traffic line information is grouped for each profile of the consumer, and the grouped

shopping traffic line information is stored in the database (Sorensen: Column 5, lines

21-24).

As per Claim 10, Sorensen teaches the claimed system wherein the preference

of the relevant zone is calculated by multiplying a ration of the number of goods

shopped in a certain zone in the store to the number of goods shopped in all zones in

the store by a ration of stay shopping time of the consumer for each zone to total

shopping time of the consumer, and is corrected using a shopping goods weight and a

shopping time weight (Sorensen: Column 7, lines 39-61 and Column 8, lines 1-2).

As per Claim 11, Sorensen teaches the claimed system wherein the shopping

goods weight is calculated by a radio of the quantity of goods shopping in the relevant

zone during a specified term including a final point of time of shopping for goods that

have ever been shopped in the store to the overall quantity of goods shopping in the

relevant zone (Sorensen: Column 8, lines 1-2).

As per Claim 12, Sorensen teaches the claimed system wherein the shopping

time weight is calculated by a radio of goods shopping time in the relevant zone during

a specified term including a final point of time of shopping to overall goods shopping

time in the store during the specified term including the final point of time of shopping

(Sorensen: Column 8, lines 1-2).

As per Claim 13, Sorensen fails to teach the claimed system wherein the

shopping traffic line tracing unit traces and analyzes shopping traffic lines of individual

consumers and hourly, daily and monthly shopping traffic lines of all consumers, and

displays a result of the analysis through the monitoring terminal.

Godsey et al teach the claimed system wherein the shopping traffic line tracing

unit traces and analyzes shopping traffic lines of individual consumers and hourly, daily

and monthly shopping traffic lines of all consumers, and displays a result of the analysis

through the monitoring terminal (Godsey et al: [0029], lines 1-20).

Therefore it would have been obvious to one of ordinary skill in the art at the time

the invention was made to analyze traffic lines of all consumers hourly, daily, and

monthly as taught by Godsey et al as well as the traffic lines of individual shoppers as

taught by Sorensen with the motivation of enabling detailed analysis of what consumers

experience in stores; where they go, how long they stay there, and what influences the

paths they choose (Godsey et al: [0006], lines 1-4).

As per Claim 14, Sorensen fails to teach the claimed system wherein the

shopping traffic line tracing unit analyzes shopping congestion in each zone in the store

and displays the analyzed shopping congestion through the monitoring terminal.

Godsey et al teach the claimed system wherein the shopping traffic line tracing

unit analyzes shopping congestion in each zone in the store and displays the analyzed

shopping congestion through the monitoring terminal (Godsey et al: [0029], lines 1-20).

The motivation to combine the teachings of Godsey et al within the Sorensen

reference is discussed in the rejection of Claim 13, and incorporated therein.

As per Claim 15, Sorensen teaches the claimed system wherein information on

the shopping traffic line and the shopping pattern of the consumer is calculated and

analyzed, and a result of the analysis is displayed as a graph and quantitative real data

values through the monitoring terminal (Sorensen: Column 7, lines 39-61).

As per Claim 16, Sorensen teaches a shopping pattern analyzing method

comprising the steps of :

detecting a location of a consumer in a store corresponding to a location of a tag

according to a signal from the tag sensed by a reader and storing information on the

detected location of the consumer in a database (Sorensen: Column 4, lines 13-16);

checking stay shopping time in a relevant zone in which the location of the

consumer is detected and storing the checked stay shopping time in the database

(Sorensen: Column 7, lines 39-61);

tracing a shopping traffic line of the consumer in association of the consumer

location information and the zone in which the stay shopping time is generated and

storing the traced shopping traffic line information in the database (Sorensen: Column 3,

lines 56-60);

analyzing zone preference of the consumer from the stay shopping time

information and goods information, which are stored in the database, and storing the

analyzed preference in database (Sorensen: Column 7, lines 55-67);

analyzing a shopping pattern of the consumer from the shopping traffic line

information, the stay shopping time information, and the goods information, which are

stored in the database, and storing a result of the analysis in the database (Sorensen:

Column 7, lines 39-61); and

generating or updating shopping profile information of the consumer and storing

the generated or updated shopping profile information in the database (Sorensen:

Column 3, lines 13-16).

As per Claim 17, Sorensen teaches the claimed method wherein the stay

shopping time is determined to be stay shopping time in a certain the relevant zone if it

is checked whether a term during which the consumer stays in the certain zone exceeds

preset threshold time (Sorensen: Column 8, lines 51-65).

As per Claim 18, Sorensen teaches the claimed method wherein the threshold

time is calculated by subtracting an average of moving time of the consumer in the

relevant zone from an average of stay shopping time for each relevant zone, and is

defined between maximal stay shopping time and minimal stay shopping time, which

are spent in each zone when relevant zone goods are shopped actually (Sorensen:

Column 8, lines 1-2 and 51-65).

As per Claim 19, Sorensen teaches the claimed method wherein the zone

preference is calculated by multiplying a ratio of the number of goods shopped in a

certain zone in the store to the number of goods shopped in all zones in the store by a

ratio of stay shopping time of the consumer for each zone to total shopping time of the

consumer, and is corrected using a shopping goods weight and a shopping time weight

(Sorensen: Column 7, lines 39-61 and Column 8, lines 1-2).

As per Claim 20, Sorensen teaches the claimed method wherein the shopping goods weight is calculated by a radio of the quantity of goods shopping in the relevant zone during a specified term including a final point of time of shopping for goods that have ever been shopped in the store to the overall quantity of goods shopping in the relevant zone (Sorensen: Column 8, lines 1-2).

As per Claim 21, Sorensen teaches the claimed method wherein the shopping time weight is calculated by a radio of goods shopping time in the relevant zone during a specified term including a final point of time of shopping to overall goods shopping time in the store during the specified term including the final point of time of shopping (Sorensen: Column 8, lines 1-2).

As per Claim 22, Sorensen teaches a shopping pattern analyzing method comprising the steps of:

registering consumer information in a database when a consumer enters a store (Sorensen: Column 5, lines 10-17 and 41-51);

detecting a location of the consumer in the store corresponding to a location of a tag according to a signal from the tag sensed by a reader and storing information on the detected location of the consumer in the database (Sorensen: Column 4, lines 13-16);

determining whether or not stay shopping time of the consumer in a certain zone in the store exceeds preset threshold time (Sorensen: Column 8, lines 51-65);

searching for a shopping profile of the consumer stored in the database if it is

determined that the stay shopping time exceeds the preset threshold time (Sorensen:

Column 8, lines 51-65);

determining whether or not a current stay shopping zone is included in the

shopping profile of the consumer (Sorensen: Column 5, lines 41-64);

selecting a preference zone of the consumer form the shopping profile

information of the consumer if it is determined that the current stay shopping zone is

included in the shopping profile of the consumer (Sorensen: Column 5, lines 41-64);

transmitting information on the preference zone and information on goods of

interest of the consumer in the preference zone to a consumer terminal (Sorensen:

Column 5, lines 41-64); and

adding information on a relevant moving zone to the shopping profile of the

consumer stored in the database (Sorensen: Column 5, lines 41-64).

As per Claim 23, Sorensen teaches the claimed method wherein the registration

of the consumer information is achieved by a wired/wireless terminal installed at an

entrance and exit spot of the store for identifying a card on which the consumer

information is recorded in a contact or non-contact manner (Sorensen: Column 5, lines

41-50).

As per Claim 24, Sorensen teaches the claimed method wherein the threshold

time is calculated by subtracting an average of moving time of the consumer in the

relevant zone from an average of stay shopping time for each relevant zone, and is

defined between maximal stay shopping time and minimal stay shopping time, which

are spent in each zone when relevant zone goods are shopped actually (Sorensen:

Column 8, lines 1-2 and 51-65).

Conclusion

6.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

US 7,006,982 B2 Sorensen discloses a system and method for analyzing

shopper behavior of a shopper within a shopping environment.

US 2002/0161651 A1 Godsey et al discloses a system for tracking a plurality of

product containers in a store environment and generating a track through the store

environment representative of a continuous path.

US 7,752,980 B2 Muirhead discloses an industrial platform for storing and

transporting articles with attached RFID tags.

US 7,475,813 B2 Swanson, Sr discloses a method for managing a merchant

layout.

US 2002/0165758 A1 Hind et al discloses a method and system for identifying

and tracking persons using RFID-tagged items carried on the persons.

US 2002/0170961 A1 Dickson et al discloses a method and system for providing

shopping assistance to a customer.

US 6,659,344 B2 Otto et al discloses a system for gathering data on behavior of shoppers in a retail market.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to REVA DANZIG whose telephone number is (571)270-7942. The examiner can normally be reached on 9:00am-6:00pm Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew S. Gart can be reached on (571)272-3955. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Reva Danzig/
Examiner, Art Unit 3687

/Scott A Zare/
Primary Examiner, Art Unit 3687